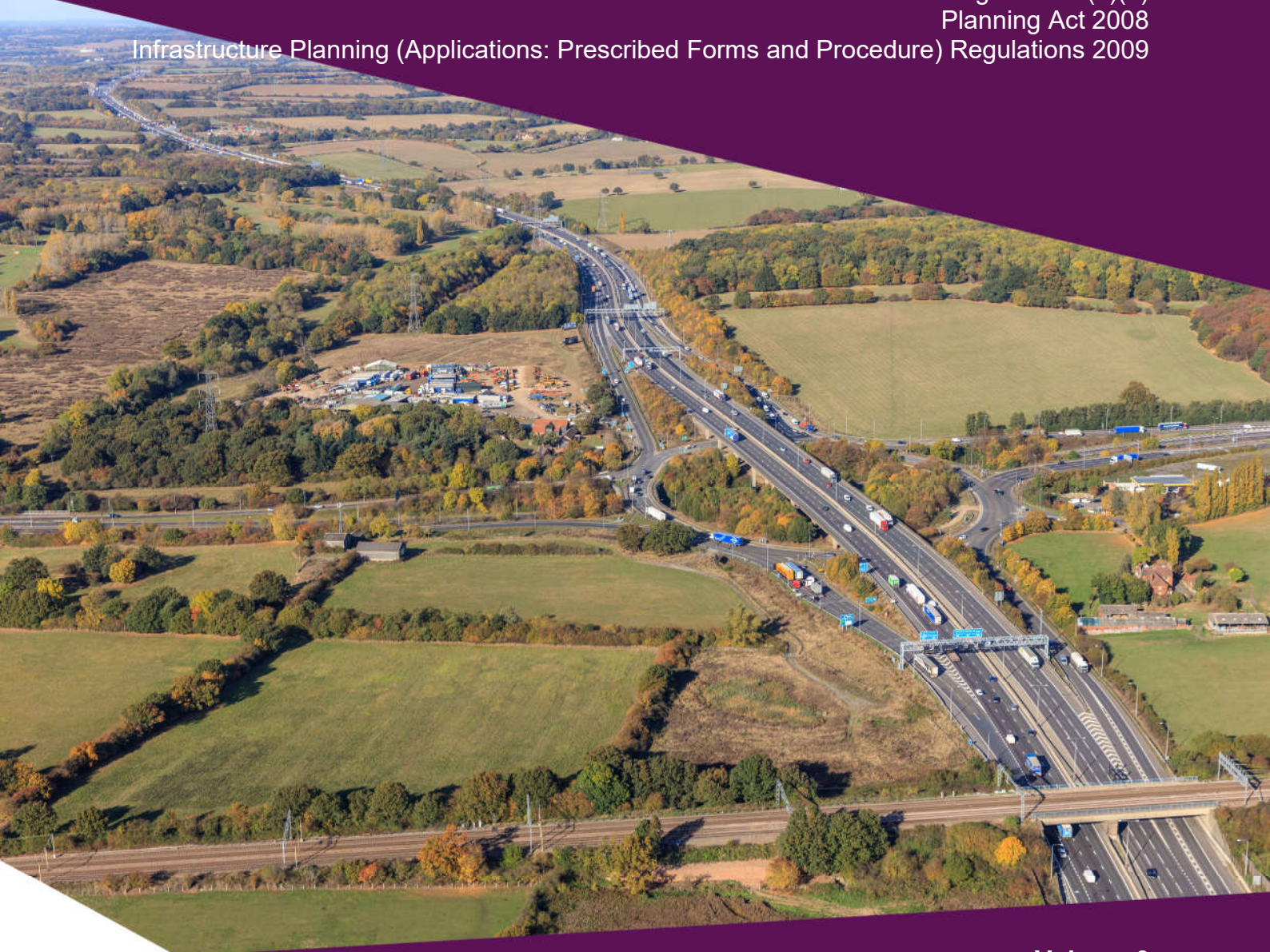


**M25 junction 28 improvement scheme
TR010029
6.3 Environmental Statement
Appendix 7.11: Breeding bird and
barn owl survey**

APFP Regulation 5(2)(a)
Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

M25 junction 28 scheme Development Consent Order 202[x]

6.3 ENVIRONMENTAL STATEMENT 7.11: BREEDING BIRD AND BARN OWL SURVEY

Regulation Number:	Regulation 5(2)(a)
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Application Document Reference:	TR010029/APP/6.3
Author:	M25 junction 28 improvement scheme project team, Highways England

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1	May 2020	Application issue

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Appendix 7.11
Breeding bird and
barn owl survey

Report



Breeding Bird Survey and Barn Owl Survey Report: Junction 28 M25

Date: January 2020

Submitted to:
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The information which ADAS has prepared and provided is true, and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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Revision History

Revision	Date	Amendment

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1 Introduction

1.1 Background and Survey Objectives

ADAS were commissioned by Atkins to undertake a suite of ecological surveys of an area of land adjacent to Junction 28 of the M25. Surveys for breeding birds were undertaken in 2017 and 2018 and this report documents their findings. The objectives of the survey were to record what bird species were breeding within the Survey Area and how the available habitats were being utilised for breeding activity. Surveys were also aimed at identifying territories for individual species. In addition, this report details the results of barn owl surveys carried out within the Survey Area.

2 Methodology

2.1 Desk Study

Biological records for the site were obtained from Greenspace Information for Greater London (GIGL), Essex Records Centre (ERC) and Essex Field Club (EFC) in 2017 and updated September 2019 to identify bird species including barn owl recorded within 2km of the DCO boundary.

2.2 Breeding Bird Survey

The method used in the survey was based on the territory mapping technique, which is similar to that used in the British Trust for Ornithology's (BTO) Common Bird Census (Marchant 1983; Bibby *et al*, 1992). The territory mapping method means that the distribution of bird territories across the site can be determined, and from this a count of the number breeding pairs for each species can be derived.

The Survey Area for breeding birds and barn owl focused on the land within the DCO boundary subject to impacts during construction and operation of the Scheme. For this reason, survey was focused on the land north west of junction 28, where the new loop road will be constructed. Outside of this area, there are temporary works associated with the gas main diversion south of the A12 (west of junction 28). All other works within the DCO boundary are limited to the existing carriageway of the A12 and M25 (e.g. replacement of signs on existing gantries). As no significant impacts to breeding birds were identified in these areas, detailed survey work has not taken place.

The Survey Area was visited on three separate occasions between May and July 2017 by ADAS ecologists (Annex 1) with an addition two visits undertaken in March and April 2018 to account for any early breeding activity previously missed. On each occasion, the Survey Area was walked following a route that allowed the surveyor to get within at least 50m of all parts of the survey area. During each survey, the location and species of all birds encountered (including both those seen and those heard) were recorded on a map

using standard BTO symbols. Additional information was recorded on bird activity, such as singing or signs of breeding activity, using standard map symbols as stated in Marchant, 1983.

Signs of breeding activity include:

- *Visiting probable nest site;*
- *Occupied nest site;*
- *Nest building or excavating nest-hole;*
- *Adult carrying faecal sac or food for young;*
- *Nest with young seen or heard;*
- *Recently fledged young; and*
- *Distraction display indicated presence of a nest-site or brood nearby.*

Once all surveys were complete, the records of birds made on each visit were collated to determine the approximate location and numbers of breeding pairs for territorial and semi-colonial species and to give an indicative total for the survey area as a whole for non-territorial species.

The value of the Survey Area for breeding birds was assessed on a scale from local to national importance, based on a criteria of exceeding 1% of the geographical category, to give the following scale:

- International = SPA qualifying criteria:
 - Site used regularly by 1% of the national population of an Annex 1 species of the EC Birds Directive;
 - Site used regularly by 1% of the biogeographical (international) population of a regularly occurring migratory species (other than those listed in Annex I of the EC Birds Directive) in any season;
 - Site used regularly by over 20,000 waterfowl or 20,000 sea birds in any season
- National
 - Site used regularly by 1% of the national population of a species
- County
 - Site used regularly by 1% of the county population of a species
 - Site meets County Wildlife Site criteria for birds
- Local
 - Site supports a population of a species, or a species assemblage of birds, notable for their protected or conservation concern status (Schedule 1 of Wildlife and Countryside Act 1981 (as amended), Annex 2 of EC Birds Directive, Species of Principal Importance, Local BAP, Red List BoCC)

To establish the abundance criteria of the above, each bird species was considered in the context of Essex County. This is taken from The 2018 Essex Bird Report .Poor weather conditions were avoided as far as possible. This included those days with rain, high winds or poor visibility, as this would limit bird activity

and/or make accurate recording difficult. Notes were made on the weather conditions during the survey, in accordance with BTO weather codes¹. The table below provides details on the surveys undertaken.

Table 1: Survey Dates and Weather Conditions

Survey	Weather Conditions ¹				
	Cloud Cover	Rain	Wind	Visibility	Temperature
26.05.17	1 – 0-33%	1 - None	1 - Calm	1 - Good	15°C
22.06.17	2 – 33-66%	1 - None	1 - Calm	1 - Good	16°C
04.07.17	2 - 33-66%	1 - None	2 - Light	1 - Good	17°C
20.03.18	1 – 0-33%	1 - None	2 - Light	1 - Good	6°C
23.03.18	1 – 0-33%	1 - None	1 - Calm	1 - Good	13°C

2.3 Barn Owl Survey

The barn owl survey carried a range of approaches that included an assessment of the biological records, any information supplied by people (residents and workers) on site, a direct survey of suitable nesting habitat for barn owls which included an inspection of both properties and trees on site (Barn Owl Trust, 2012). In addition, during bat surveys of the site any signs of barn owls were also noted and recorded. The bat surveys were undertaken from dusk into the night and also at dawn which are periods when barn owls are typically foraging.

In addition to the surveys an assessment was considered of the landscape suitability of the Survey Area for foraging, nesting and hazard issues.

2.4 Limitations

The surveys did not cover the full site extent of land within the DCO boundary as shown in Figure 1 due to access restrictions of wider areas of the site such as to the south of the A12 and the full extent to the east of the M25. However, the area to be directly impacted by construction and operation road scheme as shown in Annex 2 was covered by the survey (see methodology). Additionally, the 2017 surveys started late when access was agreed (May) and therefore further early season surveys were undertaken in 2018. The territory map produced accounted for minor variation in breeding seasons, which was expected.

¹ Cloud Cover: 0-33% = 1, 33-66% = 2, 66-100% = 3. Rain: None = 1, Drizzle = 2, Showers = 3. Wind: Calm = 1, Light = 2, Breezy = 3. Visibility: Good = 1, Moderate = 2, Poor = 3.



Figure 1: DCO boundary highlighted in red (ADAS general mapping tool 2019)

3 Results

3.1 Desk Study

Biological data searches returned records of many Schedule 1, Wildlife and Countryside Act (WCA) (1981) priority species within 2km of the site. Habitats were not present on site to support these species however, and so they were therefore ruled out. These species were predominantly located within wetland habitats, to the north and south of the DCO boundary.

Within the DCO boundary were records of kingfisher (*Alcedo atthis*) and little egret (*Egretta garzetta*), both along Weald Brook.

Records of 16 tree pipit (*Anthus trivialis*), 38 lesser spotted woodpecker (*Dryobates minor*) and one black redstart (*Phoenicurus ochruros*) were also provided within 2km of the site. Many records of common and widespread species were also returned. This is typical of data searches to the abundance of species such as robin (*Erithacus rubecula*) and blackbird (*Turdus merula*) in residential gardens.

There were no records for barn owl within the DCO boundary, with the nearest being 1.6km to the east. This record was likely associated with farmland to the east of the M25 with no connection to the Survey Area.

3.2 Barn Owl Survey

No evidence of barn owl was recorded within any of the buildings or trees within the Survey Area. The buildings within the industrial yard were steel framed structures which were heavily disturbed. The residential buildings within the south-eastern corner of Grove Farm were also heavily disturbed and no access points suitable for barn owl were recorded. All buildings within the Survey Area were considered to hold negligible potential to support barn owl.

The Survey Area is located within proximity to two major roads in the A12 and M25. Although main roads account for the majority of barn owl casualties, several habitats with the potential to support hunting barn owl were located within the Survey Area. Habitats comprised woodland, grassland, and watercourses, which likely supported a good number of rodent species. No evidence of foraging barn owl was recorded during seven bat activity surveys, which were undertaken for two hours after sunset (when barn owls are typically active), between May and October (inclusive) 2017. A tawny owl (*Strix aluco*) was recorded in 2017 within the southern woodland (The Grove) and is considered to be a resident breeder.

3.3 Breeding Bird Survey

The following summarises the key findings of the Breeding Bird Survey (BBS). The table below lists the species recorded over the five surveys, all of which were thought to have territories that fell within the survey area.

Table 2: Bird Species Recorded

Common Name	Scientific Name	Number of Territories Present on Site		SPIE	LBAP ²	Red List	Amber List
		2017	2018				
Blackbird	<i>Turdus merula</i>	9	2				
Blackcap	<i>Sylvia atricapilla</i>	5	6				
Blue tit	<i>Cyanistes caeruleus</i>	9	17				
Buzzard	<i>Buteo buteo</i>	0	1				
Carrion crow	<i>Corvus corone</i>	1	1				
Chaffinch	<i>Fringilla coelebs</i>	3	3				
Chiffchaff	<i>Phylloscopus collybita</i>	5	3				
Coal tit	<i>Periparus ater</i>	2	3				
Common whitethroat	<i>Sylvia communis</i>	10	6				
Dunnock	<i>Prunella modularis</i>	6	7	*	*		*
Goldcrest	<i>Regulus regulus</i>	1	1				
Goldfinch	<i>Carduelis carduelis</i>	2	0				
Great spotted woodpecker	<i>Dendrocopos major</i>	3	5				
Great tit	<i>Parus major</i>	10	12				
Green woodpecker	<i>Picus viridis</i>	4	3				
Jackdaw	<i>Corvus monedula</i>	1	0				

² <http://downloads.gigl.org.uk/website/London%20BAP%20Priority%20Species%20List%202007.pdf>

Common Name	Scientific Name	Number of Territories Present on Site		SPIE	LBAP ²	Red List	Amber List
		2017	2018				
Jay	<i>Garrulus glandarius</i>	1	0				
Kingfisher	<i>Alcedo atthis</i>	1	1				*
Lesser whitethroat	<i>Sylvia curruca</i>	0	1				
Long-tailed tit	<i>Aegithalos caudatus</i>	4	4				
Magpie	<i>Pica pica</i>	8	5				
Pied wagtail	<i>Motacilla alba</i>	1	1				
Reed bunting	<i>Emberiza schoeniclus</i>	2	0		*		*
Ring-necked parakeet	<i>Psittacula krameri</i>	1	2				
Robin	<i>Erithacus rubecula</i>	6	6				
Song thrush	<i>Turdus philomelos</i>	3	5	*	*	*	
Starling	<i>Sturnus vulgaris</i>	1	1	*	*	*	
Tawny owl	<i>Strix aluco</i>	1	0				
Tree creeper	<i>Certhia familiaris</i>	1	1				
Willow warbler	<i>Phylloscopus trochilus</i>	0	1				*
Woodpigeon	<i>Columba palumbus</i>	6	6				
Wren	<i>Troglodytes troglodytes</i>	22	8				

3.4 Distribution

The greatest number of breeding birds were located in the scrub running either side of Weald Brook. The wooded habitats to the north and south and the pockets of scrub interspersed within the non-native goldenrod (*Solidago* sp.) to the west of the Weald Brook supported relatively moderate numbers of breeding birds. The areas of open grassland was the least favoured habitat with predominantly foraging and commuting behaviour observed only.

This locality of breeding bird territories reflects the distribution of habitats within the Survey Area. Weald Brook supported a greater diversity of habitats than the rest of the Survey Area which was heavily deer grazed and generally lacked nesting opportunities. The habitats surrounding Weald Brook comprised scrub, woodland and tall ruderal habitat, which including the running water from the brook itself appeared to support the most breeding bird species on site. Weald Brook also had good connectivity through the Survey Area and to the wider landscape, which has encouraged kingfishers to utilise the full extent of this habitat.

The woodlands were also heavily affected by deer grazing, which significantly reduced the amount of nesting habitat available, reducing the distribution of common and widespread scrub nesting birds such as blackcap (*Sylvia atricapilla*), dunnock, chiffchaff (*Phylloscopus collybita*) and blackbird.

3.5 Bird Species and Numbers

A total of 32 species were considered to potentially be breeding within the Survey Area and its vicinity during the bird surveys. An indicative territory map of breeding species is provided in Annex 2 (of this report) with a territory map, accounting for the three additional species identified in 2018, provided in Annex 3. Four species identified had an estimated breeding population of 10 or more pairs; blue tit (*Cyanistes caeruleus*), common whitethroat (*Sylvia communis*), great tit (*Parus major*) and wren (*Troglodytes troglodytes*).

The species assemblage was considered in the context of Essex County to determine if the site supported more than 1% of the county population for each species. Abundance status within the county was taken from the 2018 Essex bird report:

Table 3: Bird territories recorded Species in relation to local status

Common Name	Status in Essex (taken from 2018 Essex bird report) NB: if a species is not classified as abundant or common, the number of reported territories has been included to enable a % of the county population to be assessed ³	Number of Territories Present on Site		Greater than 1% of county population?
		2017	2018	
Blackbird	Abundant resident, passage migrant and winter visitor.	9	2	<1%
Blackcap	Common summer visitor and passage migrant. Small numbers winter.	5	6	<1%
Blue tit	Abundant resident. Passage migrant in small numbers.	9	17	<1%
Buzzard	Common resident, passage migrant and possible winter visitor.	0	1	<1%
Carrion crow	Common resident and passage migrant.	1	1	<1%
Chaffinch	Abundant resident, common passage migrant and winter visitor.	3	3	<1%
Chiffchaff	Abundant summer resident and passage migrant. Uncommon winter visitor.	5	3	<1%
Coal tit	Common resident.	2	3	<1%
Common whitethroat	Summer visitor and passage migrant. 1,365 territories reported from 217 sites	10	6	<1%

³ The number of territories reported is likely to be an underestimate, as there will be many territories within the county that were not reported.

Common Name	Status in Essex (taken from 2018 Essex bird report) NB: if a species is not classified as abundant or common, the number of reported territories has been included to enable a % of the county population to be assessed ³	Number of Territories Present on Site		Greater than 1% of county population?
		2017	2018	
Dunnock	Abundant and widespread resident. Passage migrant and winter visitor.	6	7	<1%
Goldcrest	Common resident, passage migrant and winter visitor.	1	1	<1%
Goldfinch	Common but declined resident and passage migrant.	2	0	<1%
Great spotted woodpecker	Common resident. Passage migrant in small numbers.	3	5	<1%
Great tit	Very common resident. Passage migrant and winter visitor in small numbers.	10	12	<1%
Green woodpecker	Common but recently declined resident and passage migrant.	4	3	<1%
Jackdaw	Common resident, passage migrant and winter visitor.	1	0	<1%
Jay	Common resident. Rare passage migrant.	1	0	<1%
Kingfisher	Fairly common resident and passage migrant.	1	1	<1%
Lesser whitethroat	Declining summer resident and passage migrant. 205 territories reported from 112 sites.	0	1	<1%

Common Name	Status in Essex (taken from 2018 Essex bird report) NB: if a species is not classified as abundant or common, the number of reported territories has been included to enable a % of the county population to be assessed ³	Number of Territories Present on Site		Greater than 1% of county population?
		2017	2018	
Long-tailed tit	Common resident.	4	4	<1%
Magpie	Common resident	8	5	<1%
Pied wagtail	Common resident and passage migrant.	1	1	<1%
Reed bunting	Much declined resident, passage migrant and winter visitor. 323 territories reported from 76 sites.	2	0	<1%
Ring-necked parakeet	Scarce, but increasing, naturalised, resident and visitor.	1	2	N/A (invasive species)
Robin	Abundant and widespread resident and passage migrant. Winter visitor in small numbers.	6	6	<1%
Song thrush	Common resident. Passage migrant and winter visitor.	3	5	<1%
Starling	Abundant but declining resident, passage migrant and winter visitor.	1	1	<1%
Tree creeper	Common resident.	1	1	<1%
Willow warbler	Common but declining summer resident and passage migrant.	0	1	<1%

Common Name	Status in Essex (taken from 2018 Essex bird report) NB: if a species is not classified as abundant or common, the number of reported territories has been included to enable a % of the county population to be assessed ³	Number of Territories Present on Site		Greater than 1% of county population?
		2017	2018	
Woodpigeon	Abundant resident, passage migrant and winter visitor.	6	6	<1%
Wren	Abundant and widespread resident.	22	8	<1%

As can be seen from Table 3 all of the species recorded are common or abundant species in Essex, or the number of territories recorded falls below 1% of the numbers recorded in Essex (likely to be an underestimate as many territories would go unreported).

Six species were either protected under Annex I (European Commission 2017), Schedule 1 (WCA), were either Red or Amber Listed (BoCC) (Eaton et al 2015), Species of Principal Importance in England⁴ (SPIE) and/or local Biodiversity Action Plan (LBAP) species . These are discussed in the sections below.

3.5.1.1 Birds Directive (Annex I) and Schedule 1 (WCA)

Kingfisher was the only species recorded, which is listed under Annex I (European Commission 2017) and Schedule 1 (WCA). A kingfisher was recorded foraging along Weald Brook and although no breeding activity was noted, it was considered to be breeding either within the site or nearby as kingfisher were frequently seen within the Survey Area, commuting along the brook. The banks of the brook in places were steep and earthy, with the potential to support nesting kingfisher, although there was a considerable amount of damage to the banks from deer crossing the water course.

3.5.1.2 Red List BoCC

The BBS identified two Red Listed Birds of Conservation Concern (BoCC) species: song thrush (*Turdus philomelos*) and starling (*Sturnus vulgaris*). These species have been placed on the Red List due to a rapid, 50% or greater, decline in their UK breeding populations over the last 25 years. Both species are also listed as Species of Principal Importance in England (SPIE).

Three song thrush territories were identified within the site, two along Weald Brook and one on the eastern boundary of Maylands Golf Course. One starling territory was recorded within the industrial yard.

⁴ SPIE under the Natural Environment and Rural Communities (NERC) Act, 2006.

3.5.1.3 Amber List BoCC

The survey identified four Amber Listed BoCC species: dunnock (*Prunella modularis*), kingfisher, willow warbler (*Phylloscopus trochilus*) and reed bunting (*Emberiza schoeniclus*). These species have been placed on the Amber List because of moderate (25-49%) declines in their UK breeding populations over the last 25 years.

Six dunnock (also listed at a SPIE) territories were recorded within scrub along Weald Brook and the western boundary of Alder Wood. Two reed bunting territories and one willow warbler territory were recorded within the pockets of scrub to the west of Weald Brook. Kingfisher is discussed in Section 3.3.2.1 above.

3.5.1.4 Local Biodiversity Action Plan LBAP

The survey identified four species listed on the London Priority Species List that included: dunnock, reed bunting, song thrush and starling.

3.5.1.5 Green List BoCC

A total of 25 Green Listed BoCC territories were recorded within the Survey Area. These were all common and widespread species, typically associated with the scrub and woodland habitats. Green listed species are species that occur regularly in the UK and do not meet the criteria for the Red and Amber lists stated above. An example within the Survey Area was wren, an opportunistic breeder with at least 22 territories recorded. Wren will nest within a variety of habitats and as a result has nationally high breeding numbers and a good distribution.

3.5.1.6 Invasive species

A ring-necked parakeet (*Psittacula krameri*) territory was recorded along Weald Brook. Ring-necked parakeets are the United Kingdom's only naturalised parrot, having spread through the south-east of England. They are listed as an invasive species under Schedule 9 of the WCA and the London Invasive Species Initiative (LISI).

4 Discussion

The biological records identified a number of notable bird species that were not identified during the surveys. These included:

- tree pipit: a species that would be on passage through this area and would not breed;
- black redstart: the habitats within the DCO boundary did not support the suitable habitat for this species, and;

- lesser spotted woodpecker: The habitat onsite had the potential to support territories for this species, however the surveys covered the areas where this species of bird would most likely breed and no evidence of the species was recorded onsite. Therefore, this species is thought to be absent from the site.

The biological records also returned only a single record for barn owl 1.6km to the east, a record not considered to be associated with the site. A contributing factor to the lack of records is likely to be the M25 and the A12. Visual records of barn owl were also not identified in discussion with people on site. One of the reasons for lower number of barn owls in close proximity to major roads is the high level of mortality they cause, it is estimated that 3,000 to 5,000 barns owls a year are killed on major roads, which makes up approximately 90% of barn owl casualties. It is assumed that barn owls are absent from the site, and given this high mortality rate it is recommended not to erect barn owl boxes within 1km of any major roads (Barn Owl Trust, 2012).

Thirty-two species of birds were thought to be breeding within the site, with common whitethroat, great tit, blue tit and wren all exceeding 10 territories each. The most notable species using the site was kingfisher, which was regularly seen foraging and commuting along Weald Brook.

Breeding activity was predominantly focused within the scrub which ran either side of Weald Brook. Pockets of scrub were located to the west of the brook, although this habitat was being suppressed by the large amount of goldenrod present. It was considered that the goldenrod was having a negative effect on the breeding bird assemblage as it is replacing the native flora that would typically be found in this location to the west of Weald Brook.

When comparing the territory data from the two survey years, all species were very similar in frequency and distribution. No significant changes were identified across the site with small differences expected as not all birds are site loyal. This would be expected given that there was no significant changes in the baseline of the habitats onsite or the in the use of the site.

Undertaking surveys in the late season of 2017 and early season of 2018 allowed for a better understanding of how the site was used by breeding birds. Most notably a single pair of buzzard were recorded breeding within the northern section of Alder Wood, not previously recorded within 2017. The buzzard pair were possibly attracted to the site by the large amount of deer carrion recorded, possibly the result of the freezing temperatures in early March 2018. Two additional species, willow warbler and lesser whitethroat (*Sylvia curruca*) were also recorded in 2018, to the west of the site. These species may have been present within 2017, although breeding behaviour was likely missed due to the late survey start (May).

The first survey of 2018 recorded very low activity, again likely due to the poor weather in early March. Only great spotted woodpecker, blue tits and great tits were showing breeding activity within Alder Wood, making use of the multiple holes within the ash plantation. A pattern had emerged within the area to the west of the Weald Brook, where the pockets of bramble were being utilised by early breeding dunnock. These sections of habitat are then taken over by common whitethroat into April and May, as evident in the second survey of 2018 and the 2017 surveys.

Deer grazing was having a significant impact on the ground flora and shrub layer of the woodlands (Figure 2). The woodlands were therefore being predominantly utilised by hole nesting species such as tits.

Overall the site had a good range of breeding species onsite typical of the habitats present. All the bird species recorded have been identified as either abundant or common and the site did not support 1% or more of the county population of any of the bird species. Therefore, the overall bird assemblage is considered to be of local value.

The surveys did not cover the full site extent of land within the DCO boundary and in addition the DCO boundary has changed slightly since the surveys were undertaken. However, the breeding bird surveys undertaken have provided a good understanding of the breeding bird species present within the site and surrounding area, and it is considered that the assessment of a breeding bird assemblage of local value is appropriate, even after taking these factors into account.

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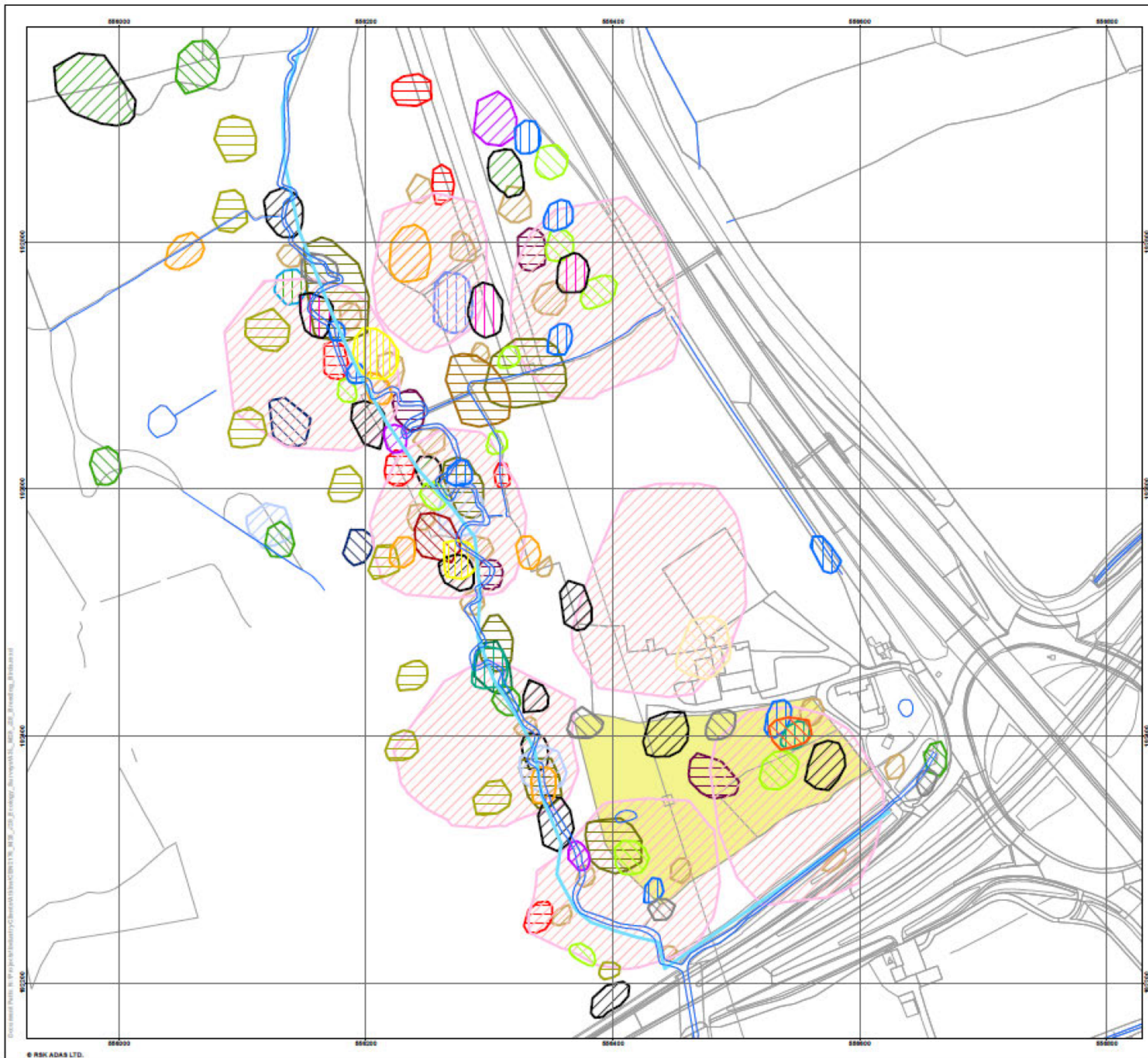
Annex 1: Surveyor experience

Surveyor 1 is an experienced bird watcher and lister with over 16 years' experience. This extensive bird experience has provided the surveyor a good knowledge of bird calls. Surveys undertaken by the surveyor include vantage point, point count transects, breeding and common bird census. The surveyor is also a British Trust for Ornithology (BTO) volunteer and a barn owl trained surveyor.

Surveyor 2 is currently working towards his 'C' Class Bird Ringing Permit with the British Trust for Ornithology. This follows over five years of experience working with birds such as nightjar, avocet, barn owl and nightingale. In addition to ringing the surveyor has undertaken breeding and wintering bird surveys for wind farm, highway, residential and rail schemes. The surveyor has in addition held nest monitoring licenses for barn owl and black redstart.

Annex 2: Approximate road layout and Breeding Bird Territory Map

See following page



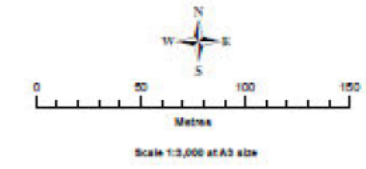
ATKINS

M25, Junction 28
Improvement

Breeding Bird Areas 2017

- | | |
|--------------------------|---------------------------|
| DCO boundary | Road improvement corridor |
| Breeding Bird | Breeding Bird |
| Blackbird | Green woodpecker |
| Blackcap | Jackdaw |
| Blue tit | Jay |
| Carrion crow | Long-tailed tit |
| Chaffinch | Magpie |
| Chiffchaff | Reed bunting |
| Coal tit | Ring-necked parakeet |
| Common whitethroat | Robin |
| Duncock | Song thrush |
| Goldcrest | Starling |
| Goldfinch | Tree creeper |
| Great spotted woodpecker | Woodpigeon |
| Great tit | Wren |
| Tawny owl | Kingfisher |

Drawn by [redacted] 11/02/2020, Verified by [redacted] 1/02/2020



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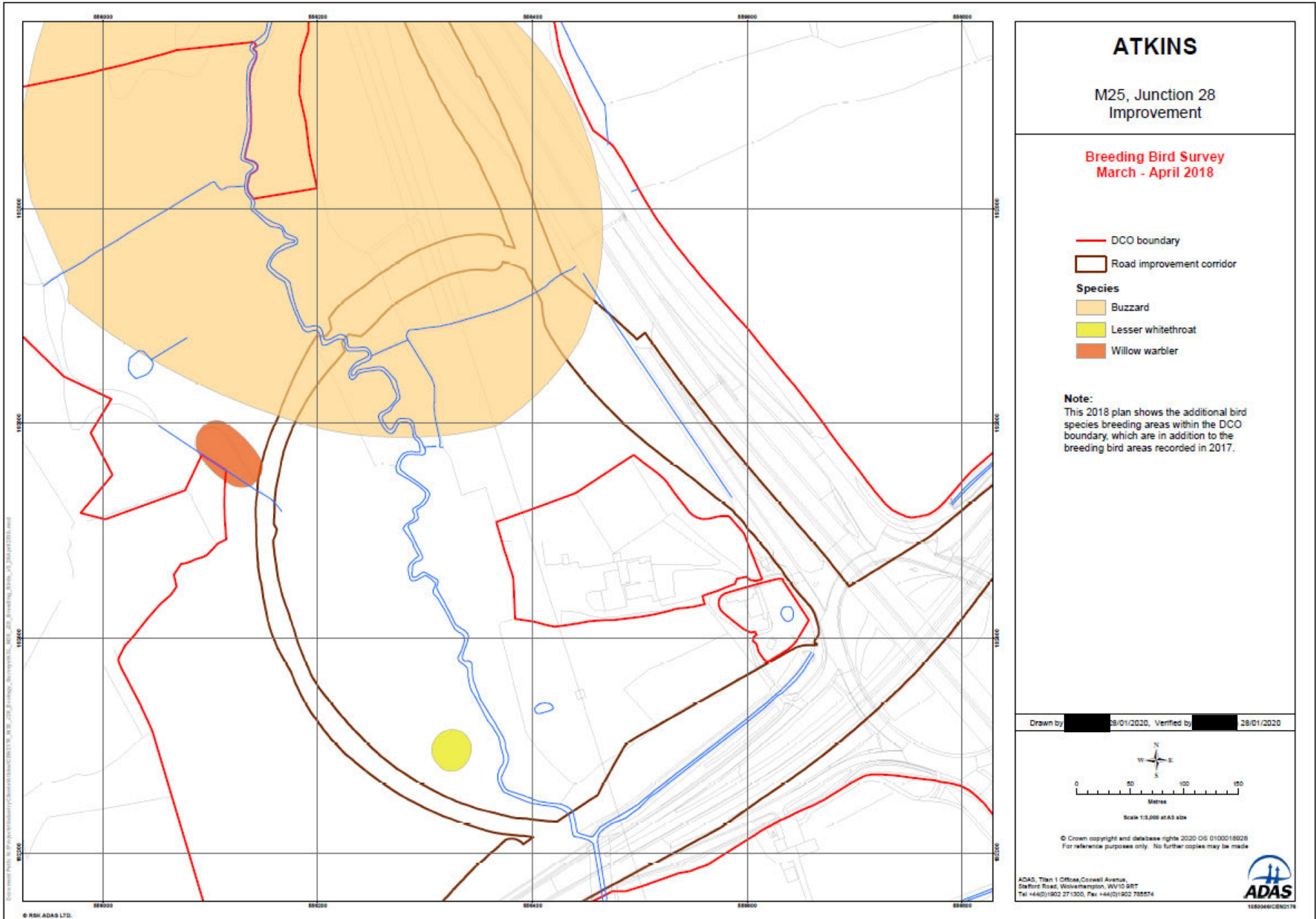


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Annex 3: Approximate Breeding Bird Territory Map (Additional Three Species in 2018)

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